Preparation of Nanoscale Inorganic Layers on Polymeric Materials

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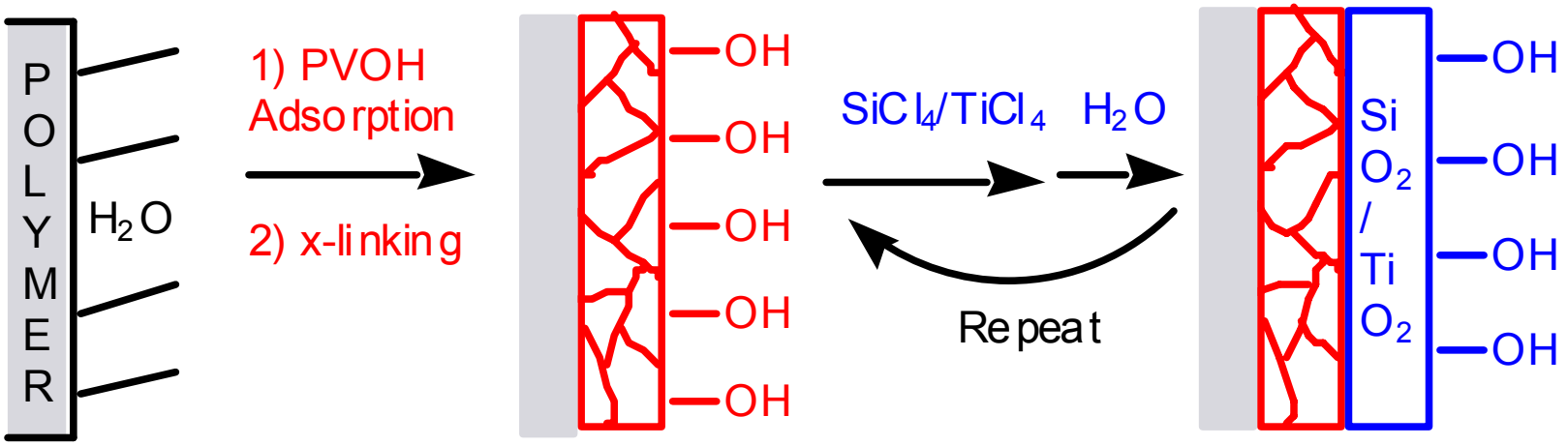

A general approach for the preparation of robust nanoscale inorganic layers on polymer film substrates is presented. Polymeric substrates were "activated" by the spontaneous adsorption of poly(vinyl alcohol) (PVOH); silica and titania were subsequently "condensed" on these surfaces. Reactions between the nanoscale inorganic layers and monochlorosilanes for silica and hydridosilanes for titania indicate that these surfaces have silica-like and titania-like reactivities. Reactions using other inorganic reagents to fabricate inorganic layers on other smooth as well as high surface area supports are in the process of being evaluated.

Quarmyne, M.; Chen, W. *Langmuir* **2003**, *19*, 2533.